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Notice of Allowability

Application No.

10/642,691

Examiner

Michael P. Stafira

Applicant(s)

HIRUTA, KOUJI

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to filing date 8/19/2003.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☒ The drawings filed on 19 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Allowable Subject Matter

2. Claims 1-10 are allowed over the prior art of record.
3. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the prior art fails to disclose or make obvious a method for defect inspection of a phase shifting mask having the step of reflecting the light beams having penetrated the light beam penetrating portions, by use of reflecting means, to cause the light beams to again penetrate through the light beam penetrating portions; and comparing the intensities of the light beams having again penetrated the light beam penetrating portions to detect defects of the phase shifting mask, and in combination with the other recited limitations of claim 1.

Regarding claim 2, the prior art fails to disclose or make obvious a method for defect inspection of a phase shifting mask having the steps of a second step of injecting the light beams into a third and a fourth light beam penetrating portions having a second phase of the phase shifting mask, reflecting the light beams having penetrated the light beam penetrating portions, by use of reflecting means, to cause the light beams to again penetrate through the light beam penetrating portions; and comparing the intensities of the light beams having again penetrated the light beam penetrating portions to detect defects of the phase shifting mask, and in

Art Unit: 2877

combination with the other recited limitations of claim 2. Claims 3-5 are allowed by the virtue of dependency on the allowed claim 2.

Regarding claim 6, the prior art fails to disclose or make obvious a method for defect inspection of a phase shifting mask having the step of reflecting the light beam having penetrated the penetrating portion, by use of reflecting means, to cause the light beam to again penetrate through the normal portion having the first phase, and measuring in advance the intensity of the light beam having again penetrated as a reference intensity; and a second step of causing the light beam to penetrate through a defect uninspected portion having the first phase, reflecting the light beam having penetrated the uninspected portion, by use of reflecting means, to cause the light beam to again penetrate through the uninspected portion, and comparing the intensity of the light beam having again penetrated through the uninspected portion with the reference intensity, to thereby detect defects, and in combination with the other recited limitations of claim 6.

Regarding claim 7, the prior art fails to disclose or make obvious an apparatus for defect inspection of a phase shifting mask having a light beam reflecting unit for reflecting the light beam having penetrated the light beam penetrating portion, to cause the light beam to again penetrate through the light beam penetrating portion; and a light beam detection unit for detecting the intensity of the reflected light beam; wherein the apparatus comprising a comparing circuit for comparing the detected intensities of the light beam, and in combination with the other recited limitations of claim 7. Claims 8-10 are allowed by the virtue of dependency on the allowed claim 7.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue


Art Unit: 2877

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael P. Stafira whose telephone number is 571-272-2430. The examiner can normally be reached on 4/10 Schedule Mon.-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Toatley can be reached on 571-272-2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Michael P. Stafira
Primary Examiner
Art Unit 2877

May 20, 2005